

## REMARKS

In response to the Office Action, Claims 1 and 2 are amended. Claims 1-6 remain in the Application. Reconsideration of the pending claims is respectfully requested in view of the above amendments and the following remarks.

### **I. Objection to the Drawings**

The Examiner has objected to FIGS. 1 and 2 for not containing the “Prior Art” legend. FIGS. 1 and 2 have been amended to add the “Prior Art” legend, and a Replacement Sheet for FIGS. 1 and 2 is attached hereto. Approval of revised FIGS. 1 and 2 is hereby requested.

### **II. Claims Rejected Under 35 U.S.C. § 103**

Claims 1-6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Michael Mao Wang et al., “Soft Decision Generation for QAM with Channel Estimation Error”, IEEE (“Wang”) in view of Applicants’ Owned Admitted Prior Art (“AOAPA”).

Claim 1, as amended, incorporates a portion of Claim 2 to recite the elements of “wherein each of the log likelihood ratio calculators comprises M adders for respectively adding M square values of M reference signals  $x_i$  and a ratio  $\rho$  of a symbol noise bandwidth of a QAM signal and a channel estimation filter noise bandwidth” (emphasis added). Applicants submit that Wang in view of AOAPA does not teach or suggest these elements.

Wang does not disclose a log likelihood ratio calculator comprising M adders. Specifically, Wang does not teach or suggest **adding** M square values of the reference signals and a ratio  $\rho$ . Rather, Wang discloses **multiplying** the square values of the reference signals by a ratio  $\zeta$  (equation 14 of Wang). Thus, implementing the equation of Wang would necessitate using M multipliers instead of M adders.

In the rejection of Claims 2, 3 and 5, the Examiner indicates that Wang teaches or suggests the addition operations (page 5 of the Action) performed by the recited M adders. However, equation 14 of Wang performs multiplications, instead of additions, with respect to the square values of the reference signals and the ratio  $\zeta$ . The ratio  $\zeta$  disclosed by Wang is different

from the recited ratio  $\rho$ . The Examiner asserts that had Wang calculated the ratio  $\zeta$  differently, equation 14 would have the recited additions. This assertion effectively admits that Wang does not disclose the recited ratio  $\rho$  and the recited additions. Even if, for the sake of argument, the computation of Wang produces the same result as the recited invention, there is no indication in Wang that teaches or suggests the specific device and method as claimed. Moreover, Wang does not provide any motivation for calculating the ratio  $\zeta$  differently or implementing the disclosed equation 14 using adders. AOAPA does not supply these missing elements. Therefore, Wang in view of AOAPA does not teach or suggest each of the elements of amended Claim 1.

Analogous discussions apply to independent Claims 3 and 5, both of which include the elements of adding a ratio  $\rho$  to the square values of the reference signals. Thus, independent Claims 1, 3 and 5, as well as their respective dependent Claims 2, 4 and 6, are non-obvious over the cited references. Accordingly, reconsideration and withdrawal of the § 103 rejection of Claims 1-6 is requested.

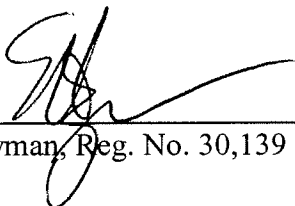
### **CONCLUSION**

In view of the foregoing, it is believed that all claims are now in condition for allowance and such action is earnestly solicited at the earliest possible date. If there are any additional fees due in connection with the filing of this response, please charge those fees to our Deposit Account No. 02-2666.

Respectfully submitted,

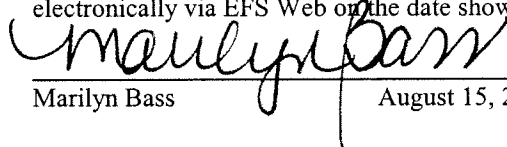
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

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Eric S. Hyman, Reg. No. 30,139

1279 Oakmead Parkway  
Sunnyvale, CA 94085-4040  
(310) 207-3800

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I hereby certify that this correspondence is being submitted  
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Marilyn Bass August 15, 2007